

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

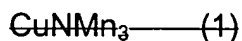
1. (Currently Amended) A method for preparing manganese-based nitride ~~expressed by the following formula (1) having a cubic antiperovskite structure, the~~ method comprising:

placing wherein a mixture of Mn_2N and Cu is placed in a quartz tube,
~~evacuated, sealed, and sintered at 800-900°C for 40-60 hr.;~~

evacuating the tube;

sealing the tube; and

sintering the mixture at a temperature of from about 800°C to about 900°C
to generate a manganese-based nitride having a cubic antiperovskite structure.



2. (Currently Amended) The method ~~for preparing manganese-based nitride~~
~~according to~~ of claim 1, wherein amount of Mn_2N is included in the mixture used in the
in a molar ratio of 1.45-1.55 per mole of copper.

3. (Currently Amended) The method ~~for preparing manganese-based nitride~~
~~according to~~ of claim 1, further comprising:

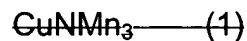
heating the mixture at wherein the temperature is raised with a rate of 40-
50°C/h in the sintering process after sealing the tube.

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4. (Currently Amended) The method for ~~preparing manganese-based nitride~~ according to of claim 1, wherein said mixture is wrapped with ~~titanium~~ tantalum foil before being placed into the quartz tube.

5. (Currently Amended) A manganese-based nitride of the formula CuNMn₃ ~~(1) prepared according to one of claims 1 to 4 has~~ and having a temperature coefficient of resistivity of 40-50 ppm/K and a cubic antiperovskite structure.



6. (New) The method of claim 1, wherein the manganese-based nitride has the formula CuNMn₃.

7. (New) The method of claim 1, wherein sintering the mixture is performed for a time of between 40 hours and 60 hours.

8. (New) A manganese-based nitride material comprising:
copper, nitrogen, and manganese according to the formula, CuNMn₃;
wherein the material has a cubic antiperovskite structure; and
wherein the material has a temperature coefficient of resistivity of between about 40 ppm/K and 50 ppm/K over a temperature range of about 160 K to about 350 K.

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9. (New) The manganese-based nitride material of claim 8, wherein the cubic antiperovskite structure of the material has a space group $Pm3m$ and a lattice parameter of $a=3.90465(9) \text{ \AA}$.

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